

## **Sulfolane Toxicity Meeting**

**Thursday, May 5, 2011, 9:00 am – 10:00 am Alaska time**

### **Attendees**

Selene Chou, ATSDR Division of Toxicology and Environmental Medicine, Chair ATSDR MRL Workgroup

Jim Durant, ATSDR Emergency Response Coordinator with DTEM

Marcia Bailey, EPA Region 10

Brandon Perkins, EPA Region 10, Site Assessment Manager

Dan Petersen, EPA NCEA-ORD, Chemical Manager for the Sulfolane PPRTV

Cassie Kirk, Alaska DHSS, EPHP Health Assessor

Ann Farris, Alaska Dept. of Environmental Conservation (DEC), Contaminated Sites Project Manager

Stephanie Pingree Buss, SPB Consulting – consultant for Alaska DEC

Marty Brewer, Risk Assessor, Alaska DEC

Nim Ha, Alaska DHSS

Denise Elston, Alaska DEC

### **Meeting Summary**

#### **1) DHSS Update**

##### **a) Cancer Registry – DHSS Update**

- i) No difference between North Pole and Alaska

##### **b) Birth Defect Registry – DHSS update**

- i) Apparent increase in birth defects for North Pole compared to Alaska and Fairbanks North Star Borough (FNSB); however, FNSB rates lower than rest of the state
- ii) Large confidence intervals which overlap with Alaska and FNSB rates

##### **c) Uncertainty**

- i) ATSDR - Development/Reproductive effects are possible but do not think they are not the most sensitive endpoint
  - (1) High dosing levels for development/reproductive effects
  - (2) But, obviously not human impacts
  - (3) High confidence in screening level based on more sensitive endpoint
  - (4) Limited data set but uncertainty reflects that
  - (5) Comfortable that they have accounted for the uncertainty
  - (6) No study of chromosomal changes
    - (a) Genotox data – 1 mutational assay possible; all other tests negative

- (b) No dose response in the 1 study
- ii) EPA –
  - (1) Uncertainty factors are conservative
  - (2) 10 fold uncertainty factor is much higher than body weight scaling
  - (3) Comfortable that really unlikely to see health effects below the screening levels
- 2) EPA PPRTV status - Status of document and peer-review of HLS study
  - a) Draft out for external review
  - b) HLS is being peer-reviewed
    - i) Extensive study – seems to be done carefully
  - c) A couple months should have external review and HLS review back (July)
  - d) If HLS is approved
    - i) Oral value will move from appendix to text of document
    - ii) Value won't change
  - e) Final documents then go through clearance
    - i) Expected final dates before September 30, 2011
  - f) EPA will share with the group response to reviewer comments
- 3) Different approaches between EPA and ATSDR
  - a) Different policy approaches
  - b) Different uncertainty factors (policy differences)
  - c) Choice of key study may be different
    - i) Each agency could understand why the other used the chosen study (HLS and Zhu)
  - d) ATSDR indicated that it was reassuring that working off of two separate endpoints, come to similar reference dose or action levels
  - e) Benchmark dose modeling (BDM) versus NOAEL approach
    - i) BDM used to figure out where the most sensitive endpoint may be
    - ii) If ATSDR used HLS, would have more of a hesitation using BMD
      - (1) HLS data does not fit well with BMD
    - iii) EPA will use BDM, if possible (preferential approach)
      - (1) Have goodness of fit criteria
      - (2) The data did not meet these criteria for HLS study
    - iv) Zhu data could use BDM, Zhu study agrees well BMD (ATSDR)
- 4) Uncertainty
  - a) Carcinogenicity studies
    - i) EPA determined impossible to determine carcinogenicity – not enough information
  - b) Developmental studies
  - c) Some endpoints not reviewed in limited literature
    - i) Literature does indicate any chromosomal changes and all development impacts at very high doses
- 5) Birth Defects
  - a) Chromosomal abnormalities change dramatically from community to community
- 6) Sulfolane concentrations in water in community
  - a) Highest level is 464 ppb down to 10 ppb (detection level)

- b) Most are below 300 ppb (100 – 300 ppb the bulk of the homes in the main part of the plume)
    - i) 80 -100 homes impacted at that level
    - ii) Ann will send out information
  - c) Estimate 1995 to present for sulfolane impact
  - d) City wells – concentrations low
- 7) Next meeting
- a) July – DEC to schedule